



**Application for  
Teaching or Research Graduate Assistantship  
Department of Architectural Engineering**

Name: \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_

Phone # \_\_\_\_\_

**ACADEMIC RECORD:**

Institution	Location	Degree	Date of Graduation	GPA

GRE Scores: V: \_\_, A: \_\_, Q: \_\_. TOEFL \_\_\_\_\_ (International students only)

AREA OF INTEREST:  MECH.  ILLUM.  STRUCTURES  CONSTRUCTION

DEGREE SOUGHT:  M. S.  Ph. D.

\*NOTE: M.Eng. Students Do Not Qualify for Graduate Assistantships.

**BRIEF STATEMENT OF CAREER GOALS:**

**BRIEF DESCRIPTION OF PRIOR TEACHING EXPERIENCE**

**BRIEF DESCRIPTION OF PRIOR RESEARCH EXPERIENCE:**

**INDICATE ON THE BACK OF THIS FORM, THE COURSES THAT YOU FEEL QUALIFIED TO EITHER TEACH OR ASSIST IN TEACHING.**

**\* To assure consideration for a Graduate Teaching or Research Assistantship, a completed Graduate School application should be in our hands by February 1!**

Return to: **Graduate Program Officer  
The Pennsylvania State University  
Department of Architectural Engineering  
104 Engineering "A" Bldg.  
University Park, Pa. 16802  
(814) 863-2091  
(814) 863-4789 (FAX)**

## AE Undergraduate Courses

Asst w/  
Teach Teaching

- |                          |                          |   |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 124 ARCHITECTURAL ENGINEERING ORIENTATION.</b> Introduction to architectural engineering; lectures and discussions with special reference to the relation of architectural engineering to the building industry.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 201 INTRODUCTION TO STRUCTURES.</b> Qualitative study, structural systems in architecture; analysis and synthesis of structure; experimental models. Coordinated course: AE 202.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 202 INTRODUCTION TO ENVIRONMENTAL SYSTEMS IN BUILDINGS .</b> Building form and environmental systems responses to the natural environment and human needs; introduction, overview of environmental systems in buildings.                                |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 210 INTRODUCTION TO ARCHITECTURAL STRUCTURAL SYSTEMS:</b> Qualitative study of architectural structural systems; historical development of structures; insights of structural analysis and synthesis; comparative structural types.                     |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 211 CONTEMPORARY DESIGN AND PLANNING THEORIES II:</b> Continuation of AE 210 with an in-depth analysis and study of significant and current environmental constructs and issues.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 221 ARCHITECTURAL BUILDING MATERIALS.</b> The structural and architectural use of building materials; commercial standardization, classification, and description as encountered in building trades.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 222 WORKING DRAWINGS.</b> Materials and methods of construction used in residences, and preparation of working drawing for a small building.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 308 INTRODUCTION TO STRUCTURAL ANALYSIS.</b> Algebraic and graphical methods of analysis of determinate members, deflections; introduction to indeterminate methods.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 309 ARCHITECTURAL ACOUSTICS.</b> Acoustical design for good hearing conditions and noise control; construction details, materials, acoustical properties of room shapes; sound absorption, transmission.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 310 FUNDAMENTALS OF HEATING, VENTILATING AND AIR CONDITIONING.</b> Fundamental principles and engineering procedures for the design of heating, ventilating, and air-conditioning systems, including energy utilization and constraints.                |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 311 FUNDAMENTALS OF ELECTRICAL AND ILLUMINATION SYSTEMS FOR BUILDINGS.</b> Fundamental principles, systems and planning concepts for electrical and illumination systems in modern buildings.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 312 FUNDAMENTALS OF BUILDING CORE SYSTEMS.</b> Fundamental principles and design practices for water, fire safety, signal, and transportation systems.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 372 INTRODUCTION TO BUILDING INDUSTRY.</b> Introduction to building industry; owner, designer responsibilities; documents, bidding procedures; design-construct contracts; project management; insurance; labor relations.                              |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 401 STRUCTURAL DESIGN OF BUILDINGS.</b> Application of principles of engineering mechanics to layout, analysis, design, and detailing of structural elements in wood and steel of simple buildings.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 402 STRUCTURAL DESIGN OF BUILDINGS.</b> Plain and reinforced concrete; design analysis and detail of beams, slabs, column and walls.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 403 STRUCTURAL DESIGN OF BUILDINGS.</b> Continuation of AE 401. Advanced analysis, design and detail of the structural elements in wood and steel.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 430 INDETERMINATE STRUCTURES.</b> Classical methods of analysis for beams, frames, arches and secondary stresses as applied to buildings; introduction to modern methods.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 431 STRUCTURAL DESIGN OF BUILDINGS.</b> Continuation of AE 402, advanced analysis, design and detail of concrete masonry prestressed and reinforced concrete.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 439 MODERN STRUCTURAL SYSTEMS.</b> Analysis and design of building structures of unusual types.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 441 INTEGRATION OF ARCHITECTURAL ENGINEERING SYSTEMS .</b> Analysis and synthesis of systems - structural, mechanical electrical, sanitary, construction - considering interrelationship in performance, economics of total systems, computer program   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 454 ADVANCED HEATING, VENTILATING AND AIR CONDITIONING.</b> Engineering design and performance analysis procedure for complex commercial building systems, including energy conservation techniques; Design project.                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 455 ADVANCED HEATING, VENTILATING AND AIR CONDITIONING SYSTEM DESIGN .</b> Design of several different systems for course project building; control strategy; economic comparisons using life-cycle cost techniques.                                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 456 SOLAR ENERGY BUILDING SYSTEM DESIGN.</b> Solar radiation, collectors and thermal storage, design and analysis of a heating system using system simulation computer program.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 458 ADVANCED ARCHITECTURAL ACOUSTICS AND NOISE CONTROL.</b> Advanced consideration of noise control in buildings; ventilating system noise and vibration; acoustic design variables.  |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 461 BASIC THEORY OF BUILDING ILLUMINATION .</b> Theory, application of lighting in buildings; electric light sources, related equipment circuitry; illumination design procedures; daylighting.   |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 464 ADVANCED ARCHITECTURAL ILLUMINATION SYSTEMS DESIGN.</b> Advanced work in daylighting, light distributions, interreflections, vision, and color; application of theory of operation of motors, transformers, and associated devices.                 |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 475 BUILDING CONSTRUCTION ENGINEERING I.</b> Project planning, supervision, inspection of architectural and structural operations in major buildings; mobilization, coordination of trades; offsite testing and fabrication.                            |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 476 BUILDING CONSTRUCTION ENGINEERING II.</b> Construction of mechanical and electrical systems in major buildings; fire protection, sound control, elevating, trade coordination; manufacturers developments; computer application.                    |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 481 COMPREHENSIVE AE SENIOR PROJECT.</b> Final design of engineering systems for buildings; comparative analysis and interaction of systems. Professional practice responsibilities. Formal project presentation and critique.                          |
| <input type="checkbox"/> | <input type="checkbox"/> | <b>AE 482 COMPREHENSIVE AE SENIOR PROJECT .</b> Continuation of AE 481. Final design of engineering systems for buildings; comparative analysis and interaction of systems. Professional practice responsibilities. Formal project presentation and critique. |